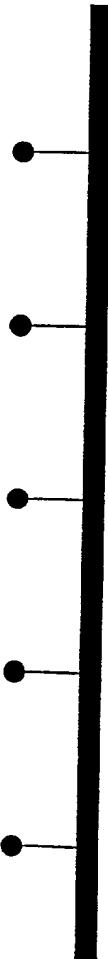


## Components of specific imaged gene delivery and diagnosis system

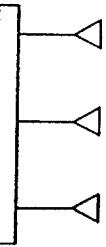
①



### Characteristics:

- Long positively charged backbone
- Branching points
- ● = G3R7, TAT domains or other transfection/endolysosome/nuclear targeting agents

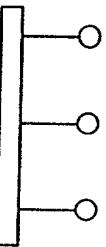
②



### Characteristics:

- Short negatively charged backbone
- Branching points or conjugation points
- △ = imaging moieties

③



### Characteristics:

- Short negatively charged backbone
- Branching points or conjugation points
- ○ = variable selective targeting agent (Fab, Ig and, etc.)

④



### Characteristics:

- Oligo or cDNA with transgene of interest

⑤

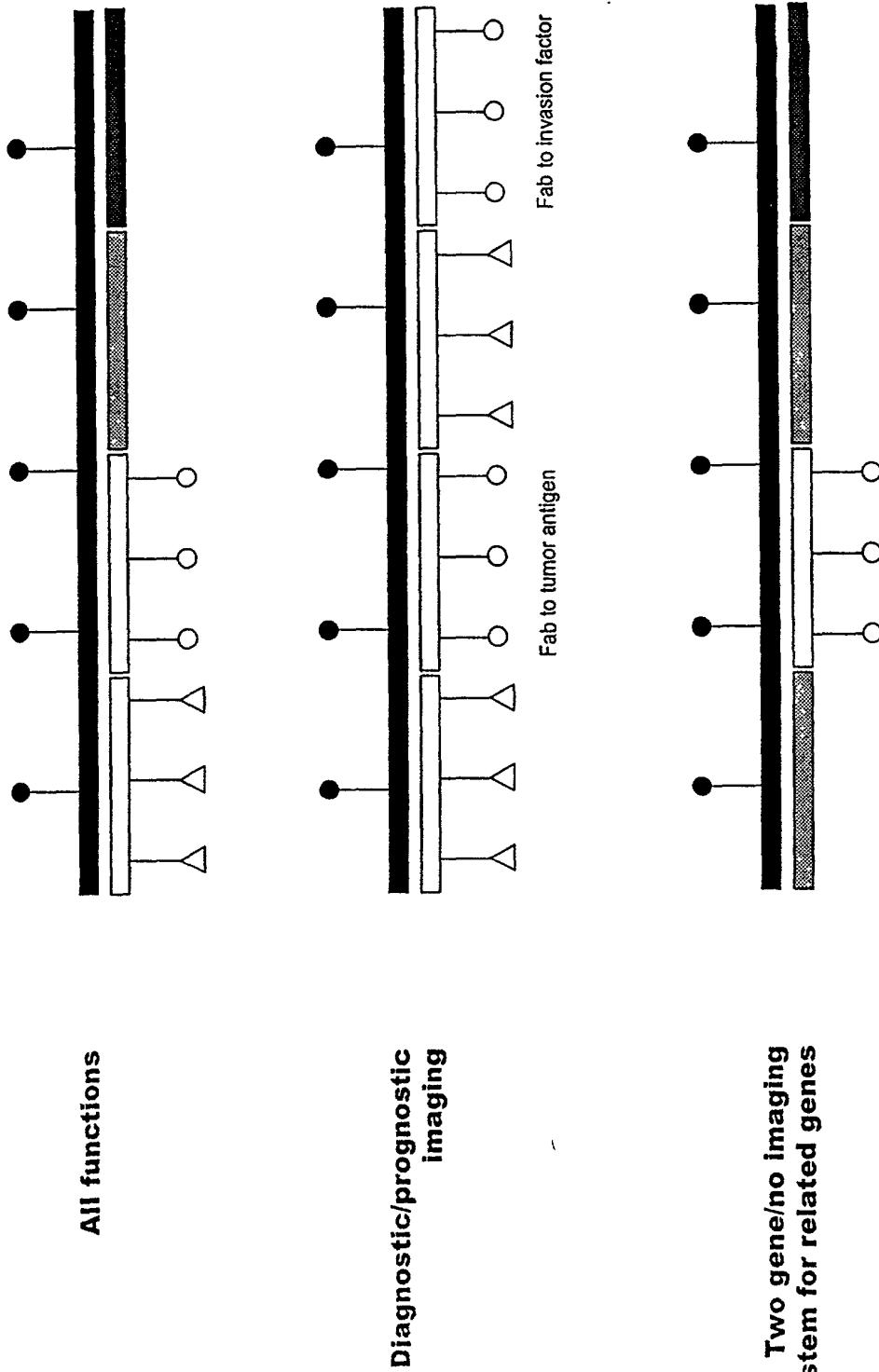


### Characteristics:

- DNA encoding persistence factors

Combinations of components above give enhanced specificity ③, diagnostic imaging ②, and gene delivery ④ with high efficiency ① and persistence ⑤.

**Examples of potential assembled systems**



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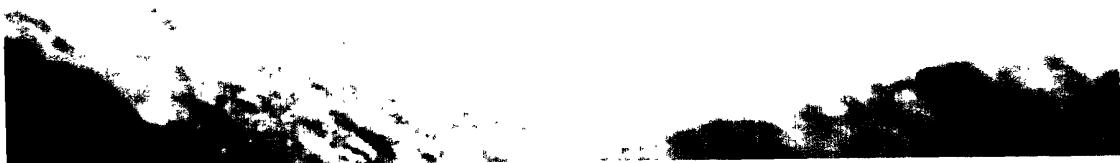
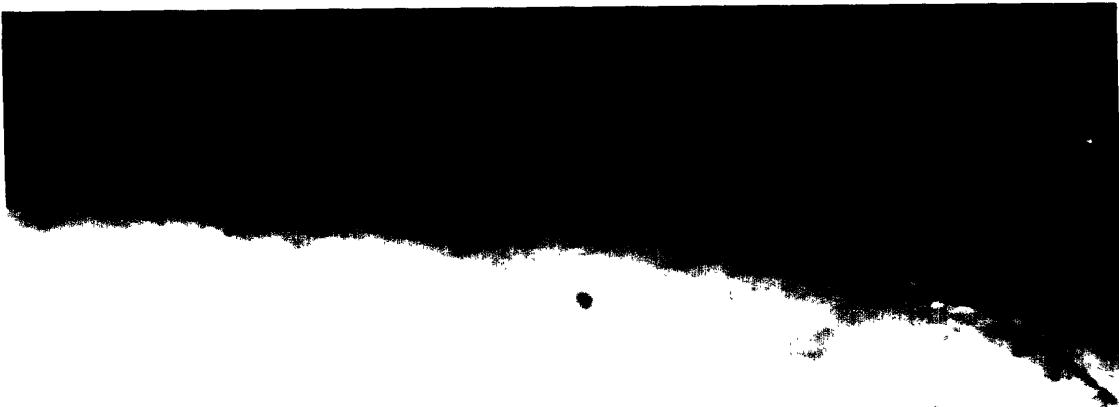
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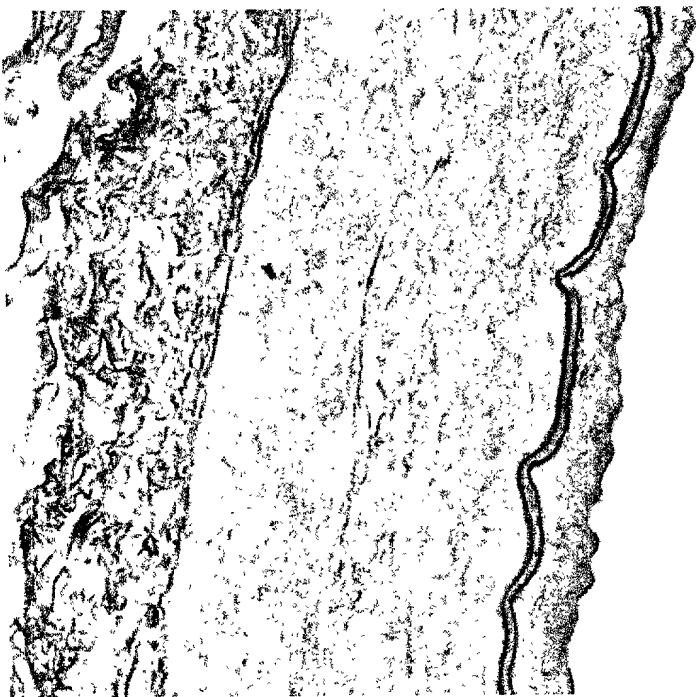
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This high-contrast electron micrograph displays a complex cellular structure. A large, dark, irregularly shaped nucleus occupies the upper and central portion of the image, characterized by a dense, granular internal texture. The surrounding cytoplasm is filled with a dense network of fine, dark, wavy lines and dots, representing various organelles and cellular components. The overall image has a grainy, high-contrast appearance typical of electron microscopy.

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